Figure 1
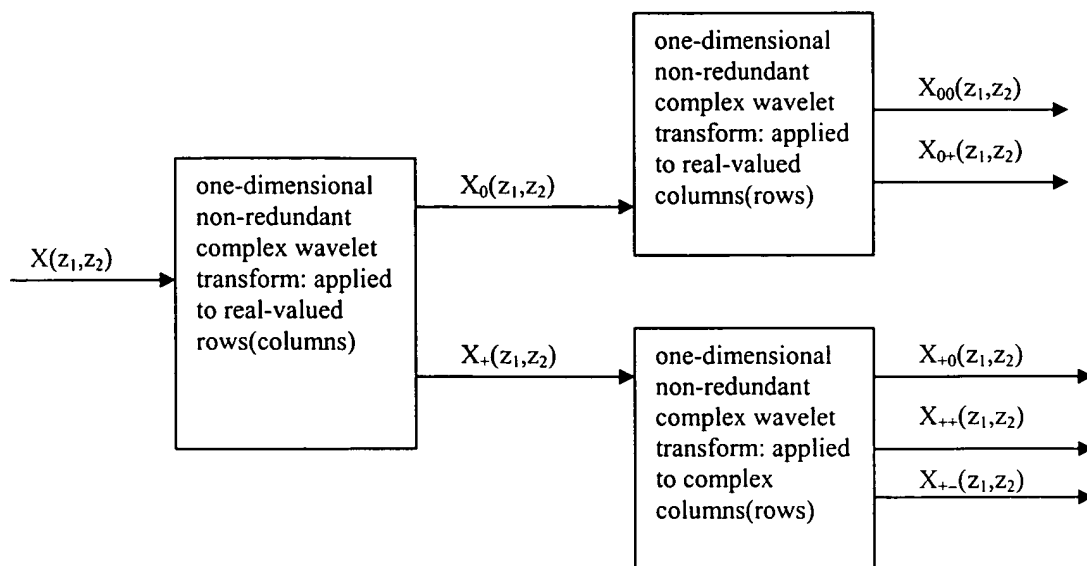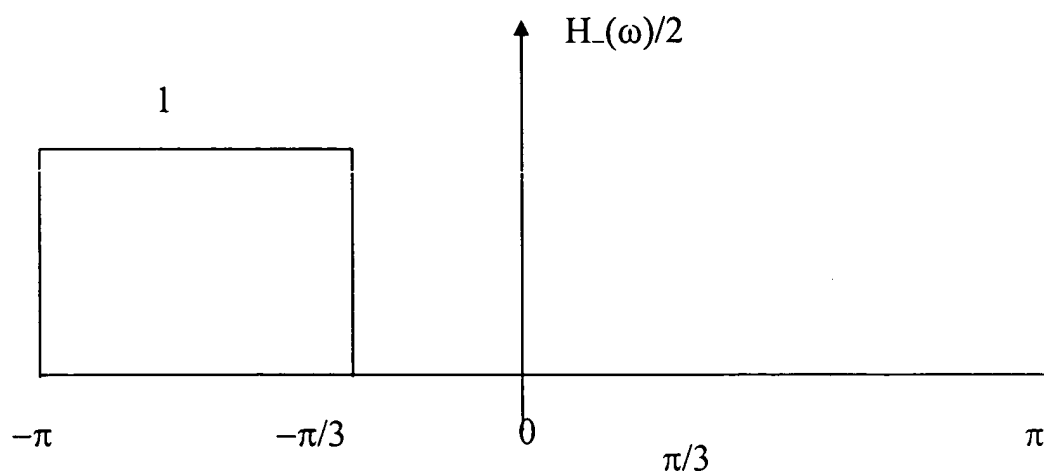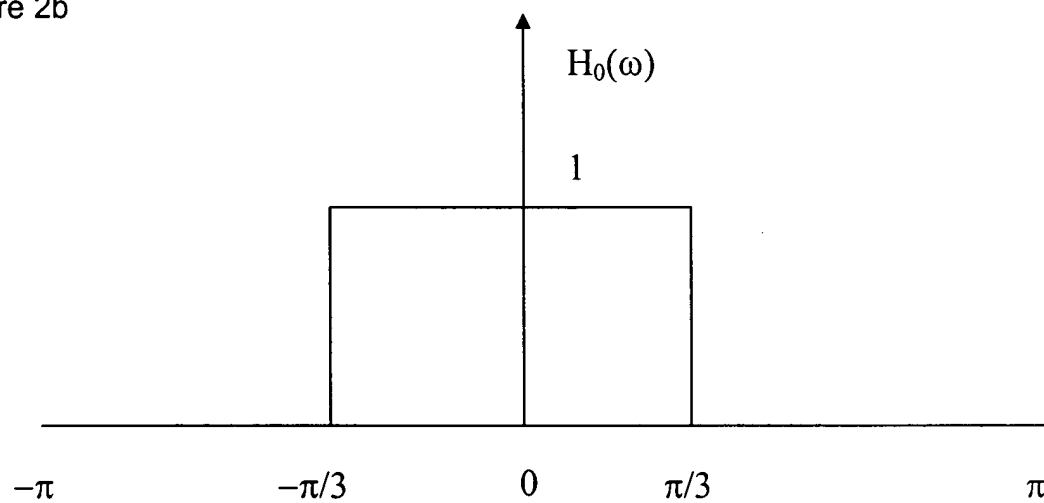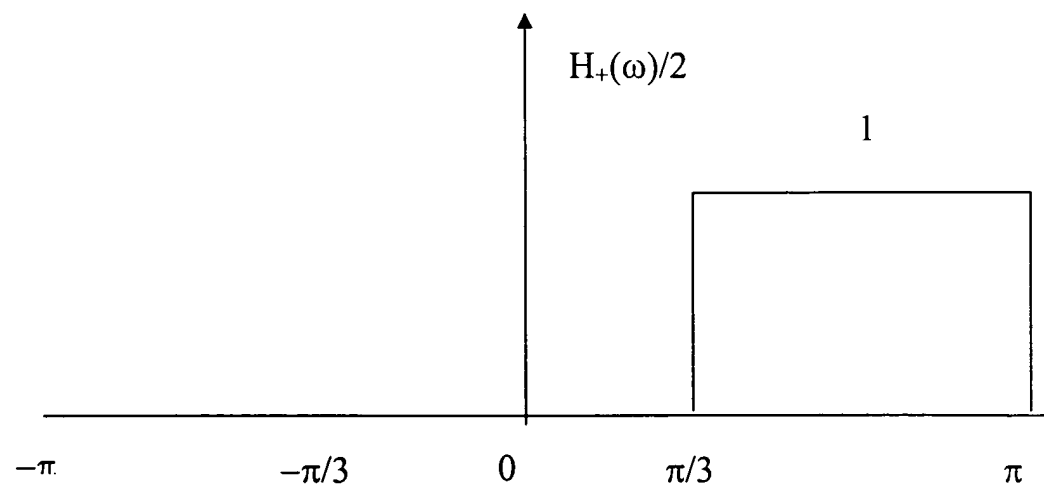
Figure 2a

Figure 2b

Figure 2c

Figure 3a   one-dimensional transform for real-valued signals
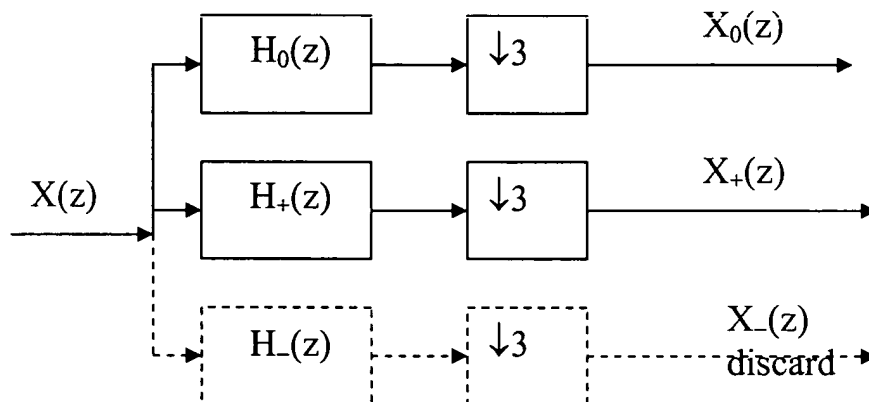

Figure 3b   one-dimensional transform for complex-valued signals

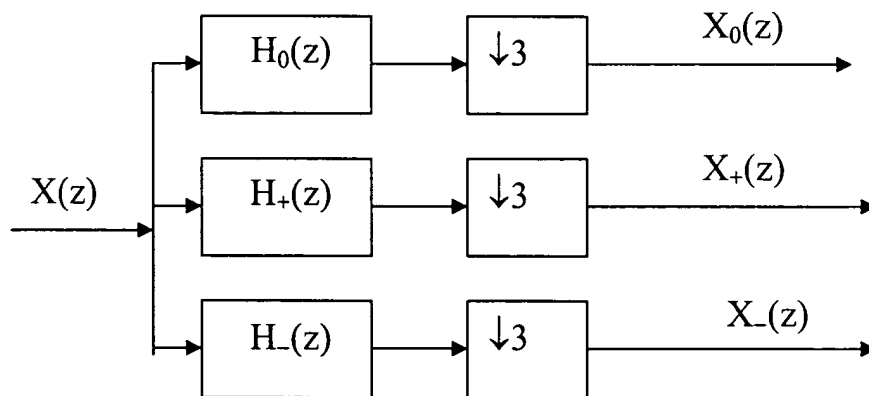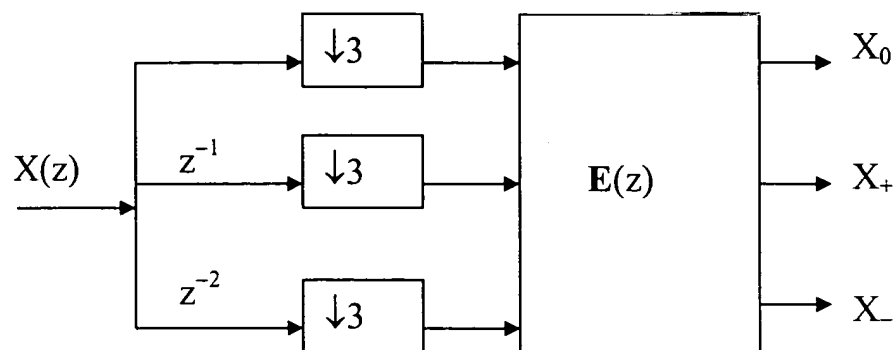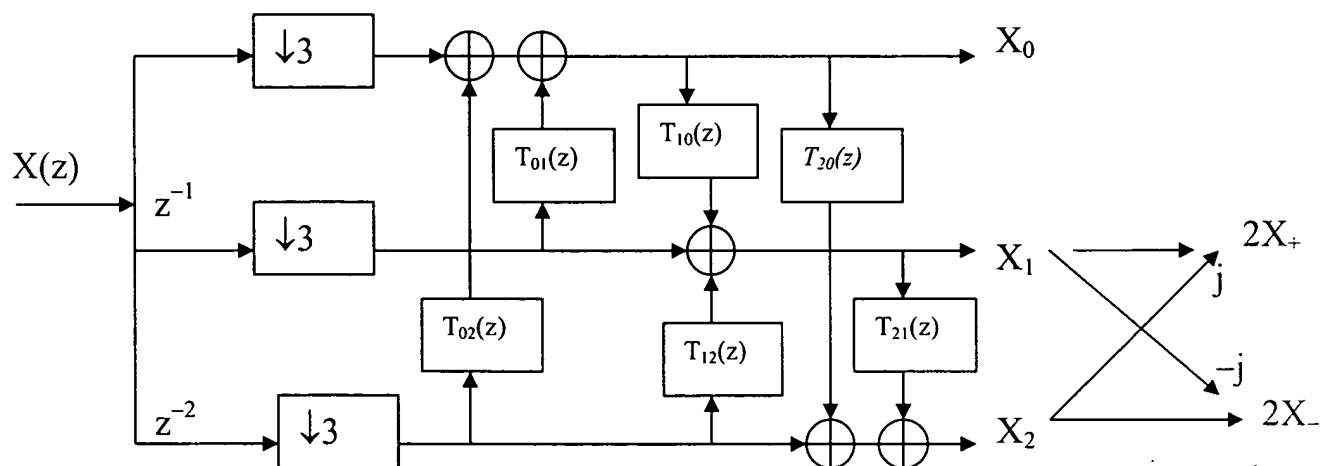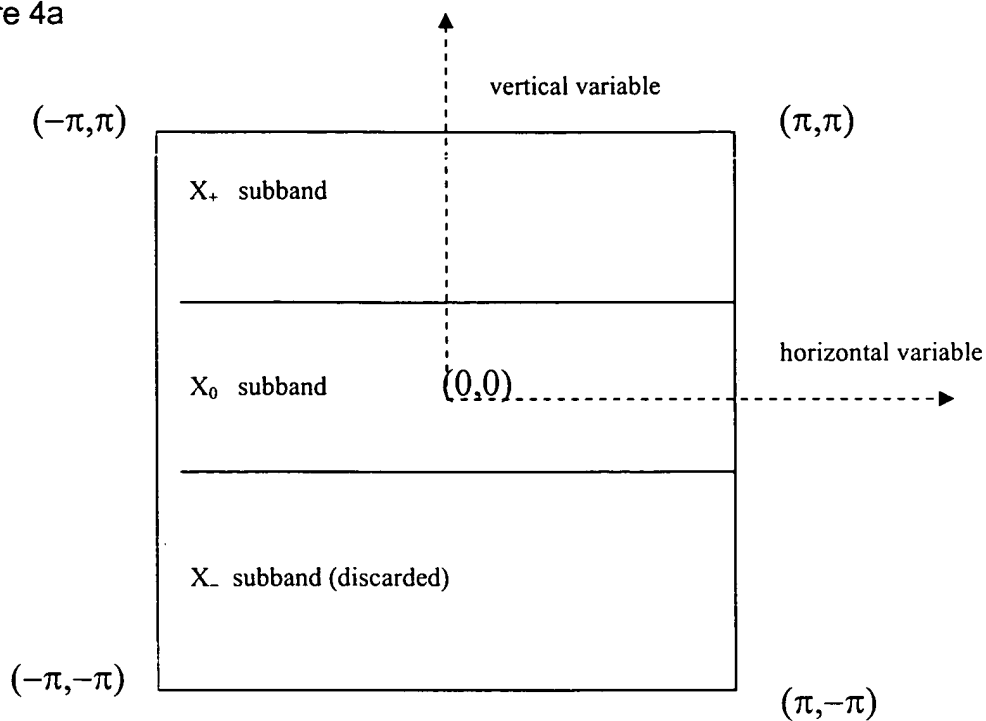Figure 3c polyphase

Figure 3d lifting

Figure 4a

vertical variable

$(-\pi,\pi)$ (π,π)

X_+ subband

horizontal variable

X_0 subband   (0,0)

X_- subband (discarded)

$(-\pi,-\pi)$ $(\pi,-\pi)$

Figure 4b

vertical variable

$(-\pi,\pi)$ (π,π)

X_{+-} suband (−45° edges)	X_{+0} subband (horz edges)	X_{++} subband (45° edges)
X_{0-} subband (discarded)	X_{00} subband (lowpass)	X_{0+} subband (vert edges)

horizontal variable

X_- subband
(discarded)

$(-\pi,-\pi)$ $(\pi,-\pi)$
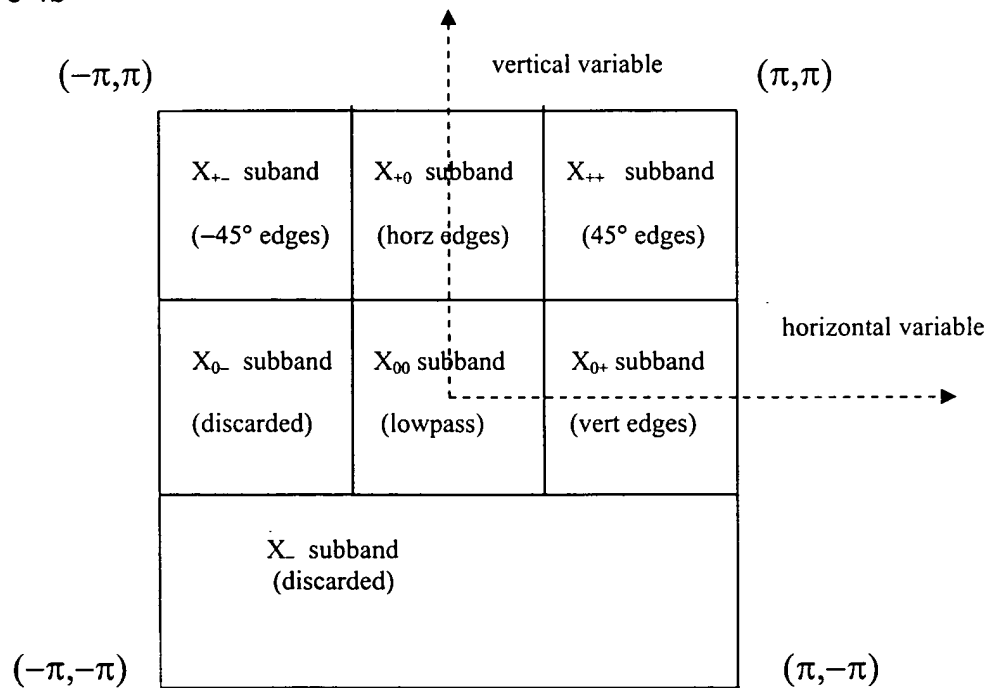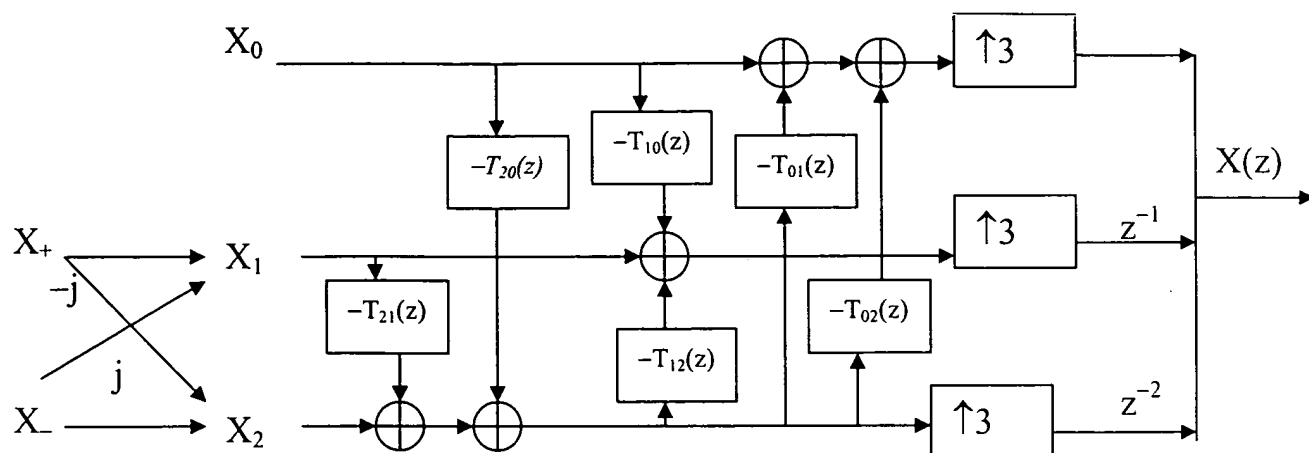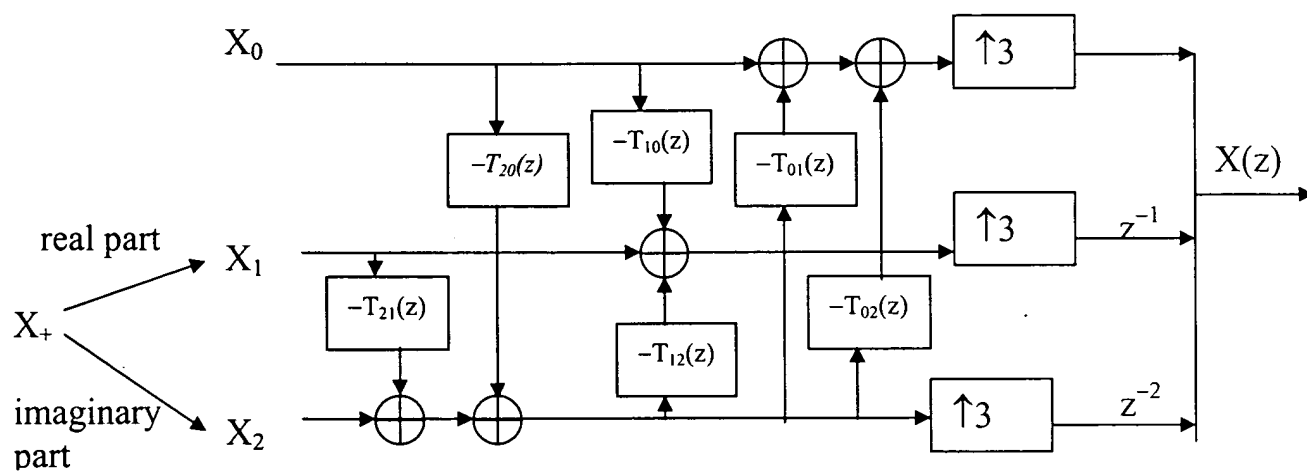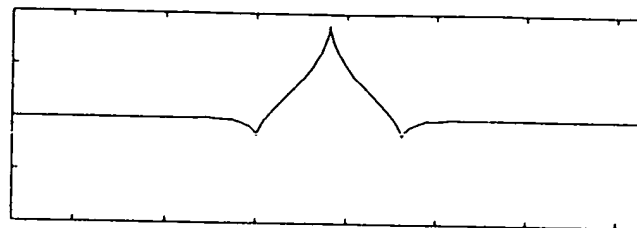
Figure 5a lifting synthesis for complex
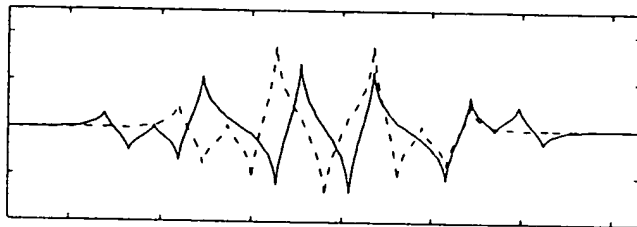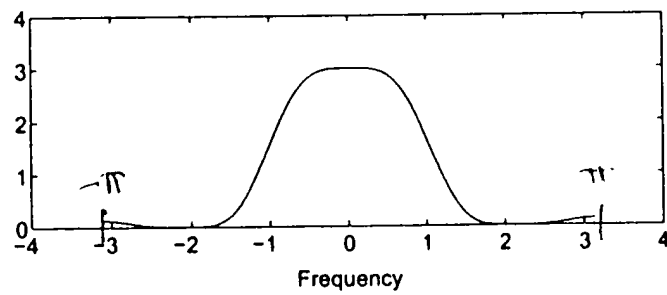

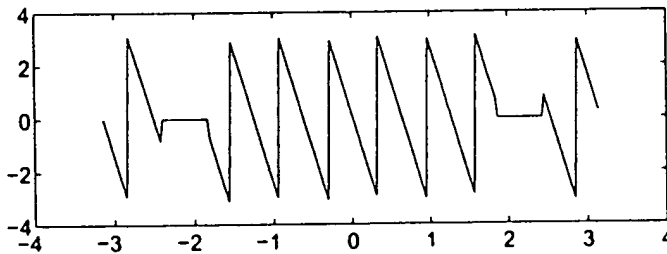Figure 5b lifting synthesis for real

Time

Fig. 6 (a)

Frequency

Fig 6 (b)

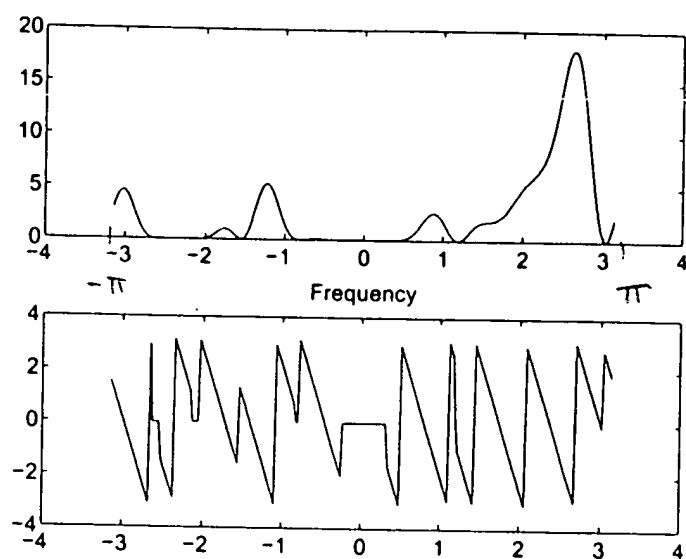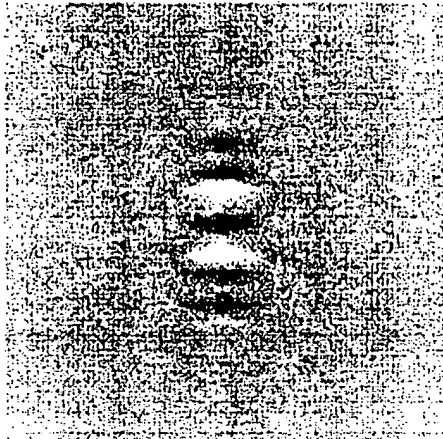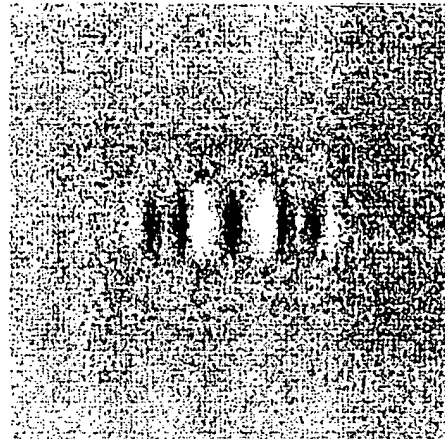Fig. 6 (c)

Horizontal

Vertical

+45

−45

Fig. 7

a

b

c
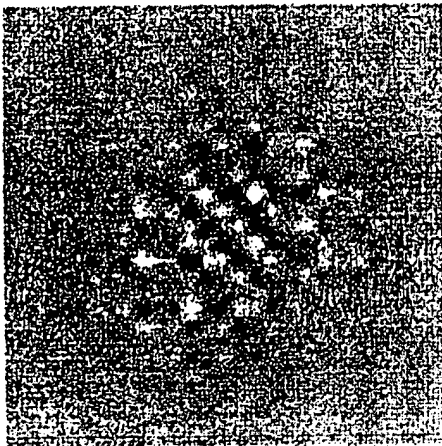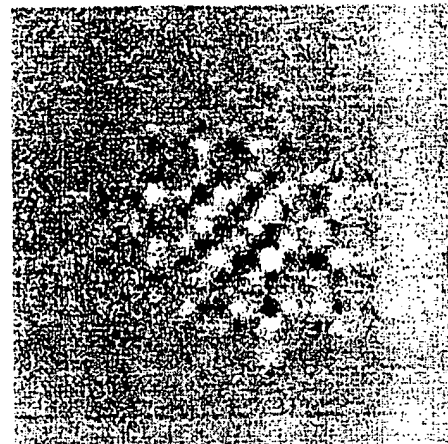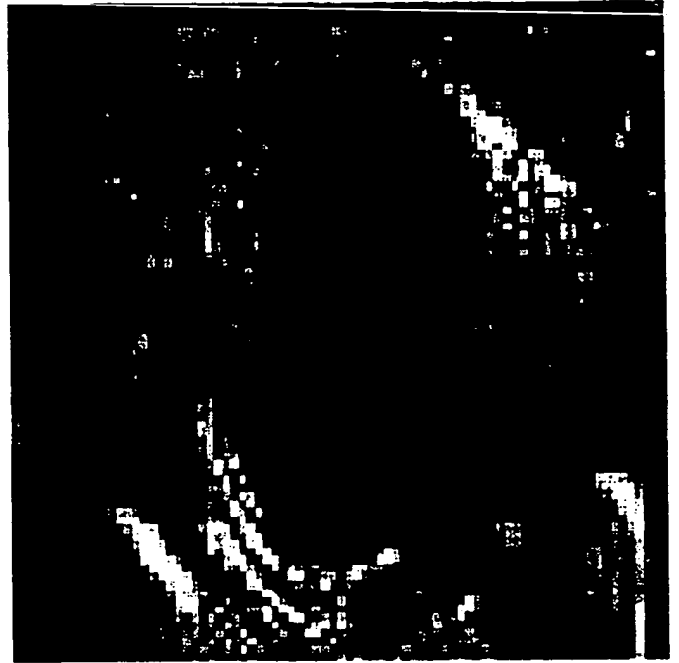
Fig. 8

Figure 9a digital camera functions
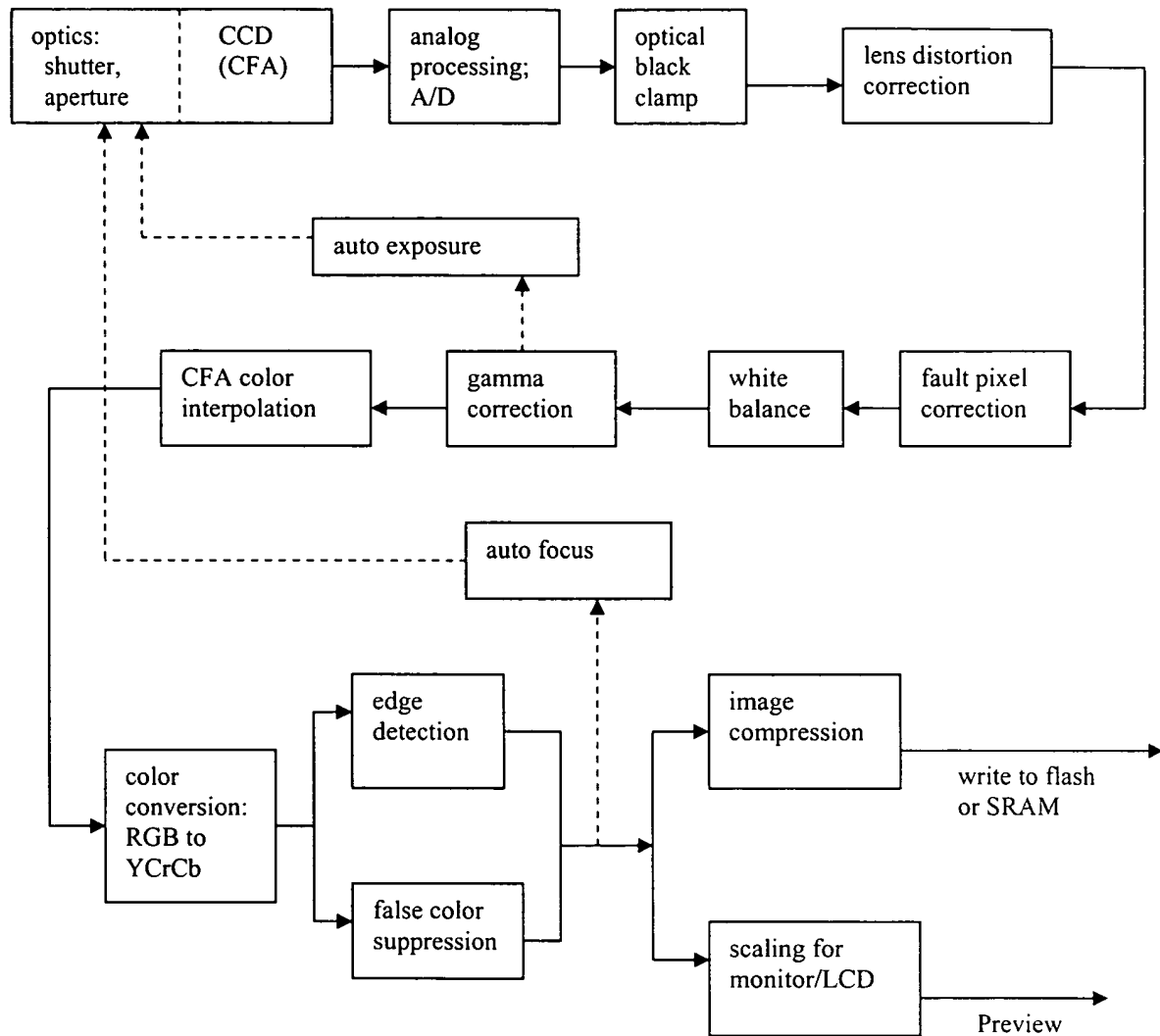
Figure 9b digital camera components

Figure 10

```
source          forward                                          compressed image data
image data  →   transform    →   quantization  →   entropy
                (wavelet)                           encoding
                                                                        ↓
                                                                store or transmit
                                                                        │
reconstructed   inverse          dequantization    entropy             │
image data  ←   transform    ←                  ←  decoding   ←─────────┘
                                                                compressed image data
```
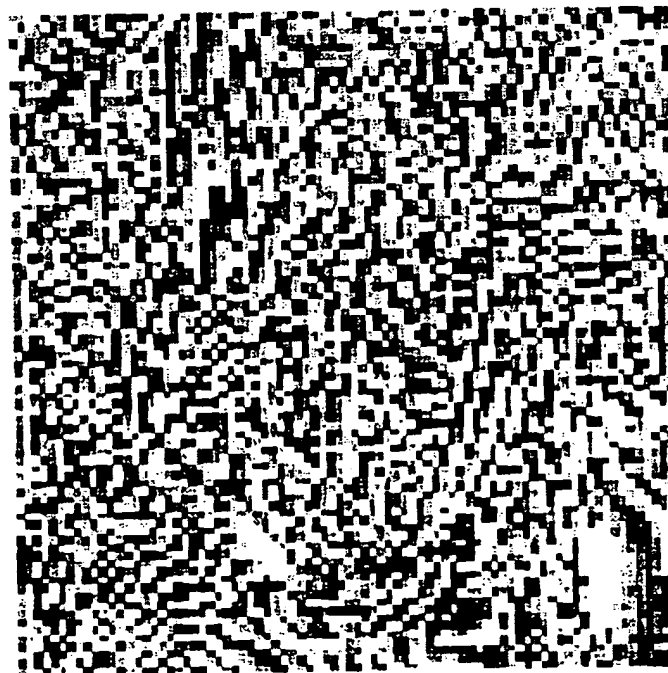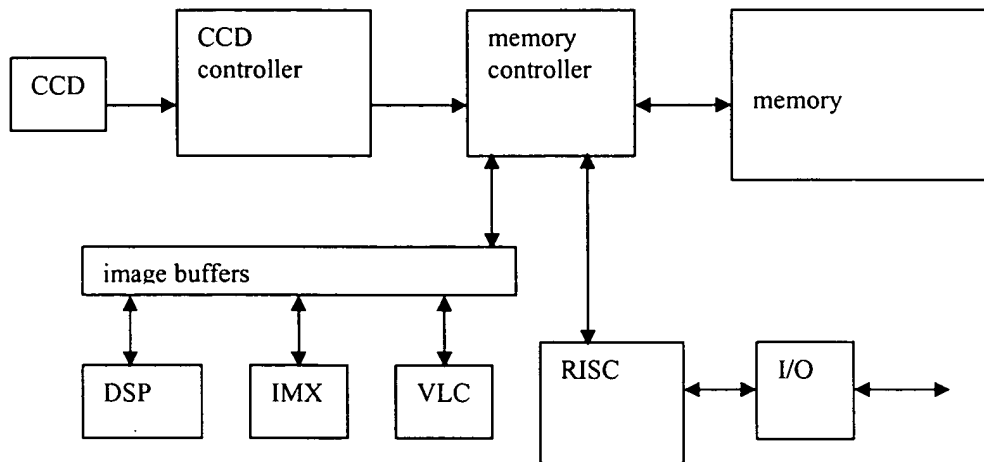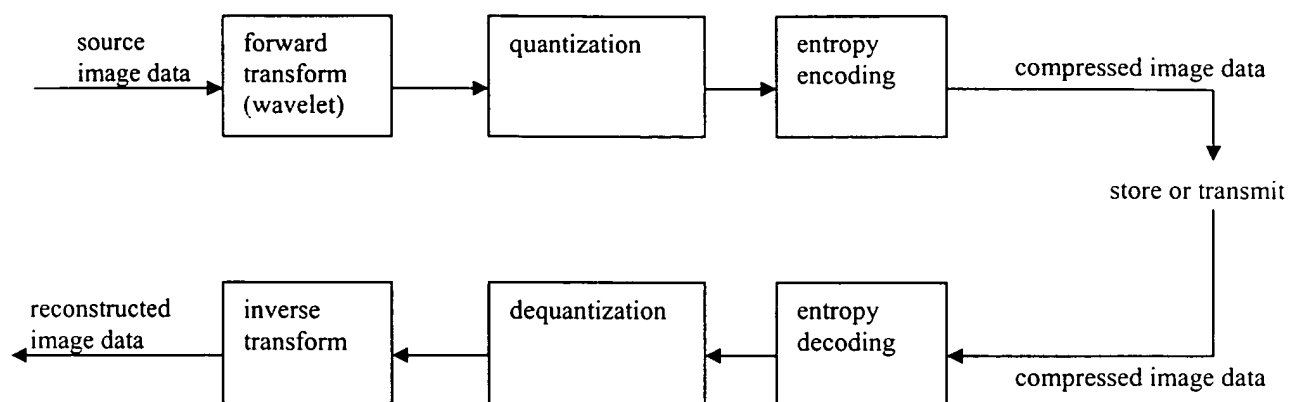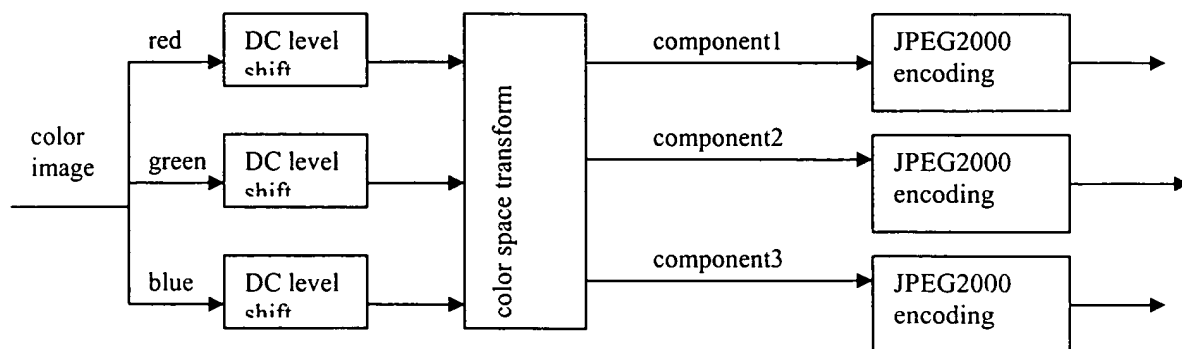
Figure 11a JPEG2000 component image

Figure 11b JPEG2000 overall